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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,970	09/24/2003	Katsumi Abe	121036-060	4886

35684 7590 10/06/2005

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EXAMINER	
SANDERS, KRIELLION ANTIONETTE	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/669,970	ABE ET AL.	
	Examiner	Art Unit	
	Kriellion A. Sanders	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: At the paragraph bridging pages 2 and 3, the phrase, "In the case of wheel speed sensors are applied to an underbody portion of a car..." is confusing. The first complete paragraph of page 2 also has confusing syntax.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim1 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification is specific to compositions comprising ethylene methyl acrylate rubbers. Claim 1 is directed to ethylene methyl rubbers.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-381276 in view of Boudaris et al, US Publication No. 2003/0077465. US Patent No. 6,870,002 is the English equivalent of the Japanese reference and will be used for translation purposes.

JP 2001-381276 teaches a rubber composition, which comprises 100 parts by weight of a rubber mixture consisting of 70-95 wt. % of solid rubber and 30-5 wt. % of liquid rubber reactive on the solid rubber, and 450-1,000 parts by weight of magnetic powder. As the solid rubber, nitrile rubber (NBR), acrylic rubber (ACM), ethyl acrylate-ethylene copolymer rubber (AEM), ethylene-propylene copolymer rubber (EPDM), fluororubber (FKM), etc. may be used, according to the desired application. Since applicant's ethylene methyl acrylate rubber differs from ethylene ethyl acrylate rubber of the JP reference only in that it is the next adjacent homologue, the use of the former would have been obvious to one of ordinary skill in the art at the time of applicant's invention.

The liquid rubber that is reactive on the solid rubber is a liquid rubber having the same structure as or similar structure to that of the solid rubber and may be cross-linkable with the same vulcanizing agent as for the solid rubber. Patentee indicates that when liquid rubber that is reactive on solid rubber is added to the conventional magnetic powder-containing rubber, the processability of the compositions may be improved without any deterioration of physical properties to the rubber, while maintaining a high magnetic force necessary to the magnetic powder. This process also maintains the lower viscosity of the rubber compound and maintains heat resistance and flexibility of moldings. The patented rubber compositions can be suitably

used as rubber magnets designed specifically for sensors in magnetic encoders used at the encoder positions such as wheel speed sensors, etc. The invention utilizes Sr ferrite as magnetic powder, as well as (N-cyclohexyl-2-benzothiazyl sulfonamide as cross-linking aid. (Amides are the reaction products of amines and acids. Therefor the curing aids, (vulcanization aids of the patent), are amine based).

Boudaris et al discloses compositions, as well as methods for making said compositions comprising magnetic materials such as ferrites, rare earth-cobalt magnets of one or more of the rare earth elements such as Sm or Pr, yttrium (Y), lanthanum (La), cerium (Ce), or other magnetic materials including, for instance, manganese-bismuth and manganese-aluminum. The method of the invention is not limited to any particular magnetic material, and the scope of the invention is therefore not limited as such. The magnetic composition includes about 70 wt-% or more of the magnetic material to provide sufficient attractive force. Patentee indicates that it is impractical to employ more than 95 wt-% of the magnetic material because of production concerns, and also because of the difficulty of retaining more than this in the binder material. Further-more, including more than about 95 wt-% of the magnetic material is said to lead to a rougher surface. The magnetic material may be supplied in a powder form. The magnetic strength of the finished product is a function of the amount of magnetic material or powder in the mix, the surface area, thickness, and method of magnetization (e.g. whether it is aligned or not). The thermoplastic material, often referred to in the industry as a thermoplastic binder, suitable for use in the process of the patentedinvention may include any polymeric material that is readily processable with the magnetic material. Such thermoplastic materials include both thermoplastic elastomers and non-elastomers or any mixture thereof. Examples of thermoplastic elastomers

suitable for use herein include, but are not limited to, natural and synthetic rubbers. These include but are not limited to, polyolefins including polyethylene, polypropylene, polybutylene and copolymers and terpolymers thereof such as ethylene vinyl acetate copolymers (EVA), ethylene n-butyl acrylates (EnBA), ethylene methyl (meth) acrylates including ethylene methyl acrylates (EMA),

Boudaris documents that ethylene methyl acrylates and ferrites are conventionally used in rubber compositions having magnetic properties. The use of these components in the JP invention would have been obvious to one of ordinary skill in the art at the time of applicant's invention.

See the entirety of each document.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 6:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kriellion A. Sanders
Primary Examiner
Art Unit 1714

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